

## Description

OPTEC 2000 Lenses Coating material, provides a optically clear surface on Polycarbonate or Acrylic lenses that is nearly as scratch and abrasion resistant as glass with the broadest range of chemical and solvent resistance available. OPTEC 2000 is a transparent coating typically applied from 40 to 60 microns thick.

## Applications

OPTEC 2000 can be used to enhance safety and esthetics in almost any lens application:

- Full Face Piece Respirator Lens Assemblies (SCBA)
- Optical Grade Lens Covers for Institutional Video Security Cameras
- Head Cover Lens Assemblies
- Hood Lens Assemblies
- Air-hat Helmet Lens Assemblies
- DOT Helmet Lens Assemblies
- Safety Glasses/Goggles/Face Shields
- Prescription and Non-prescription Plastic Eyeglass Lens (clear and tinted)

## Typical Product Data:

The OPTEC 2000 formula and application process on polycarbonate lens moldings and extrusions results in no less than the following minimum specifications:

### Luminous Transmittance

Type I – (Clear) 85% Minimum Transmittance

Type II – (Tinted) 17% to 23% Transmittance

**Haze** - <2% Maximum Average

**Lens Defects** – No defects larger than 0.07 square millimeters (pits, bubbles, inclusions, embedded foreign matter).

### Abrasion Tests

*Taber Abrasion Test* (with 500 g. load on each wheel @ 1000 cycles. Haze % measured ASTM D 1003-6L.)

**Result:** 3.0-7.0 Δ Haze

*Steel Wool Test* (with #0000 Steel Wool Pad, 1.12" D @ 25psi & 5 cycles.)

**Result:** 1.0 Δ Haze

*Summers Optical Coating Hardness Test, 2 ½ Pound*

**Result:** <2% Δ Haze

## Environmental Tests

*Water Immersion Test* (in tap water @ 65°C.)

**Result:** 500+hours with no cracking or loss of adhesion.

*QUV Exposure Test* (on QUV instr. Manuf. By Q Panel Corp. Cycle = 8 hrs. Uv @ 70°C & 4 hrs cond. Humidity @50°C.)

**Result:** 400+hours with no cracking or loss of adhesion.

*RS Sunlamp Exposure Test*

**Result:** 800+ hours with no cracking or loss of adhesion.

*UV Light Yellowness Index Test* (after 500 hrs. of QUV.)

**Result:** Index = 1-4

*Haze after Boiling* (Placed in boiling water for no less than 2 hours, then cooled for 1 hour)

**Results:** No evidence of peeling, <2% Δ Haze

**Solvent Resistance Tests** (with saturated cotton balls for 30 min).

Ethylene Glycol Anti-Freeze

Diesel Fuel

Gasoline

Heavy Duty Detergent

Heavy Duty Brake Fluid

Transmission Fluid (Type A)

Isopropyl Alcohol

Acetone

**Result:** <2% Δ Haze

**Chemical Resistance Tests** (applied and allowed to stand for no less than 6 hours)

Liquid Nerve Gas Agent GB

Liquid Nerve Gas Agent HD

**Result:** <2% Δ Haze

## Impact Tests

*Room Temperature Impact* (1 inch steel ball dropped 50 inches onto front of lens)

**Result:** No fracture, chipping or crazing of coating

*Low Temperature Impact* (After conditioning at -40°C, ± 1°C for not less than 4 hours, drop 1 inch steel ball, 50 inches onto front surface of lens)

**Result:** No fracture, chipping or crazing of coating

TEC 2000 products offer superior protection of acrylic and polycarbonate sheets or thin gauge materials. In most cases the materials coated can be bent to a soft radii or machined to size without coating failure. The TEC 2000 product line is designed to offer the user abrasion and chemical resistance that is far superior to uncoated polycarbonate or acrylic sheets or thin gauge materials. Due to the number of different manufacturers of polycarbonate and acrylic sheet products on the market, ACP NOXTAT cannot warrantee this product for specific applications. Although verbal, written information or recommendations contained in any of the ACP NOXTAT literature is given in good faith, no guarantee is made that the same results or satisfaction will be obtained. None of the ACP affiliates, employees or authorized representatives will be held responsible for any loss incurred up to and including labor, materials, coating costs or shipping charges. Each user of the product shall make its determination as to the suitability of the product in its intended use. All modifications to the coating to offer desired results for specific applications will be done at the risk of the purchaser and ACP NOXTAT will not accept any responsibility for the end results. Any testing that is needed will be done by the purchaser to determine whether the products performance falls within the specific guidelines that are needed for the purchaser's particular application.